BLOG POST

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Is gamification the solution to sustainable behaviour change?

In this article, Jessica Taylor explains how governments can adopt methods of 'Gamification' to engage individuals, organisations and communities in sustainable behavioural change.

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Bio →

Achieving sustainable behaviour change is a foremost priority for governments around the world. Progress is currently happening far too slowly for the world to meet targets, and in some cases, emissions are moving in the wrong direction. Additional behavioural changes across society are needed to achieve the structural change which will curb the crisis - through reducing demand, increasing the lifetime of goods and increasing reuse and recycling. This post explores whether gamification technologies can help to solve some of these challenges, using innovative data capabilities and game mechanics to engage individuals, organisations and communities in sustainable change.

Climate-related behaviour change approaches can be divided into three target levels: organisational, community-based and individual consumers. The former consists of public and private organisations who are seeking to change climate behaviours in employees, in order to try to change their organisation's emissions. Community approaches seek to achieve collective behaviour change organised through community initiatives on local or regional levels. The last targets consumers directly through marketing campaigns or through the market of sustainability-focussed behavioural apps. These apps offer a range of solutions for those who want to reduce their consumption and emissions.

Gamification is uniquely suited to address issues relating to sustainable behaviour, as it can confront two key behavioural barriers citizens face when trying to make changes. The first is the Value-Action gap, where people have concerns about the environment but fail to change their behaviours consistently around these concerns. The second is the Default Bias, where people and organisations are naturally change resistant, and this inertia generates a bias in favour of the status quo. Gamification, which is the application of game mechanics like rewards, narratives or progressive information release, specialises in increasing motivation and engagement around behaviours, and so can help to confront both of these barriers.

Gamification can take a number of forms, from the simple introduction of points and rewards for carrying out key sustainable behaviours in the office, to video- and computer-games oriented towards educating people on sustainability (known as serious games). Increasingly, research supports the use of gamification and serious games for changing climate behaviours, with particular strengths in education and

understanding through simulation. Gamification and serious games have been found to be uniquely suited to simplifying complex and large-scale issues for individuals, so that they can comprehend the difference their behaviour change can make. This is especially important for climate change, due to the psychological barriers mentioned above which are prevalent due to the size and complexity of global warming as a problem.

There are a huge range of gamification and serious games startups in the climate space, aimed at organisational, individual and community engagement and using a whole range of techniques to achieve their goals. The main approaches are educational games, gamified carbon accounting, and using gamification alongside IoT technologies for community or organisational initiatives.

Educational games make up the greatest proportion of gamification approaches to sustainability. On the one hand, these come from the video games industry's takes on climate initiatives, adapting their successful games to pass on messages and behaviours about sustainability. Ubisoft's Anno 1800 adapts Anno Union's traditional goals of productivity to environmental goals, asking players to prioritise sustainable practices alongside technological innovation to combat an existential threat. On the other hand, there are civil society or public sector backed games designed around a range of educational aims, such as the UN's Mission 1.5, which takes players through a policy simulation on climate change decisions, collecting participant opinions as they play, thus crowdsourcing population sentiment on key climate decisions.

Carbon accounting describes a set of tools that help organisations and individuals to understand their emissions, and often comes paired with emissions offsets plans. Ducky, Greener and JouleBug are three examples of such technologies. Ducky is a digital behaviour change system, consisting of a carbon footprint calculator and a gamified climate challenge app which allows players to compete against each other to reduce emissions. JouleBug Enterprise is a gamified employee management system, within which Shine is a specific app that encourages sustainable behaviours in employees through tracking, customisable competitions and challenges linked to employee rewards.

Greener is a specific service which gives users a Greener score, and points them to Greener-approved providers. These providers in turn donate to the app, the funds from which are used to reforest Australia. Players can share and compete on improvements to their Greener score (a 10 of which is equivalent to becoming carbon neutral). In the pilot of the app users achieved a 30% reduction in their carbon footprint on average, and Greener was able to bring greener businesses between 5 and 21% of their new customers through the service.

Finally, adjacent to carbon accounting and in some areas overlapping with it, are community or organisational programmes using gamification alongside IoT technologies. Initiatives in this area have seen great success, such as Iskraemeco's Green Penguin program, which equipped schools across the city of Ljubliana with smart meters and engaged them to compete to reduce their energy usage. The project involved 99 Ljubljana schools and kindergartens, 16'105 children and over 35'000 teachers and parents, and overall achieved a carbon footprint reduction of 15%, equal to 1085 tonnes of CO_2.

Another project, the Brisbane Reduce Your Juice programme, used mobile gamification to help low-income families reduce energy consumption, reducing bills by 52 AUD (£28) quarterly, and achieving a 12.3% improvement in energy consumption on the previous year. A final success in this area comes from Opower, which equipped homes with smart sensors to allow neighbours to compete to reduce energy usage. In 2016 the competition saved enough energy to power every home in Miami for over a year.

As demonstrated, the ways in which gamification can benefit climate change efforts are numerous. Gamification's focus on design and data iteration taps into individual's motivations and barriers to live sustainably, an approach that has not been utilised to its fullest extent. There are a huge range of options for citizens, organisations and government to choose from when confronting behaviour change around climate action. Governments must now fully engage with these approaches, to encourage those who struggle to commit to sustainable behaviours.

PUBLIC is always keen to hear from startups and innovators with solutions to encourage sustainable behaviour, please don't hesitate to get in touch.

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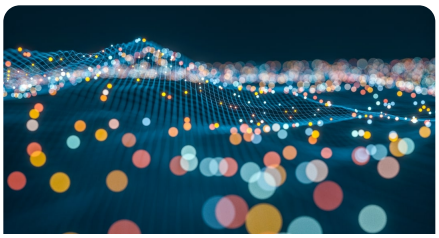

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